

REMARKS

A. Request for Reconsideration

Applicant has carefully considered the matters raised by the Examiner in the outstanding Office Action but remains of the position that patentable subject matter is present. Applicant respectfully requests reconsideration of the Examiner's position based on the amendments to the claims, the amendments to the specification and the following remarks.

B. The Invention

The present invention is directed to a method for creating three-dimensional images from two-dimensional moving picture frames. In one of the novel aspects of the invention, a pair of glasses is worn over the left and right eyes of a viewer, and a three-dimensional moving picture is produced by activating one of the two eyeglasses in accordance with the movement of the two-dimensional moving picture to partly block light from reaching one of the two eyes of the viewer.

The present invention can be achieved using a Pulfrich filter which reduces the light intensity of an image to the right or left eye, usually by placing a dark filter before the right or left eye (page 3, lines 7-9). The dark filter retards and delays the light that reaches the eye, in comparison to the

light that reaches the eye not covered by the Pulfrich filter. Thus, by partly blocking the light that reaches one of the eyes of the viewer, the viewer perceives an artificial three-dimensional image since the image arrives at the eye covered by the Pulfrich filter later than the image that arrives at the eye not covered by the Pulfrich filter.

The Inventor has discovered that each eyeglass can be activated to partly block light from reaching the eye in synchronization with the movement of objects in a two-dimensional moving picture to create the perception of a three-dimensional moving picture.

C. Claim Status and Amendments

Claims 1-9 and 11-13 have been presented for further prosecution.

Line 1 of claim 11 has been amended to correct a minor typographical error. The word "images" had inadvertently been omitted from the phrase "three-dimensional images". Support for this correction can be found at page 4, lines 5-7.

Claim 11 has also been amended to insert a comma after viewer, and to provide antecedent basis for the two-dimensional moving picture frames in the final line.

Entry of the above amendments is respectfully requested since it is deemed that these amendments are not substantive and do not affect the scope of the claims.

Claim 11 has also been amended to delete the word "foreground" since the present invention includes background objects in addition to foreground objects. Entry of this amendment is respectfully requested since it appears that the Examiner's search was directed to the movement of objects in general and was not limited to the movement of foreground or background objects only.

D. The Office Action

Claims 1-9 had been allowed. Claims 11 and 12 had been rejected as being anticipated by Noble (US 4,907,860).

The Examiner had cited the Abstract and col. 3, lines 31-34 of Noble to teach a pair of eyeglasses that partly block light from reaching the eye of the viewer. The Examiner had also cited Figure 1, col. 6, lines 19-25 and col. 5, lines 8-20 of Noble to teach activating each eyeglass in synchronization with the movement of objects in a two-dimensional moving picture.

1. Noble does not teach or suggest that each of the eyeglasses can be activated to partly block light

Noble teaches viewing glasses that produce a three-dimensional image from a two-dimensional monitor that alternately displays a right eye image and a left eye image. When the right eye image is displayed, the right eyeglass lens is clear to transmit the image to the right eye, while the left lens is opaque to block the image from reaching the left eye (col. 3, lines 16-27). Noble explains that the right and left eye images are alternately displayed every 1/60th of a second, and the right and left eyeglass lenses correspondingly alternate from clear to opaque every 1/60th of a second (col. 3, lines 28-38). The "opaque" lenses as referred to by Noble are lenses that prevent the image from reaching the eye (col. 3, lines 35-38).

In contrast to Noble, the eyeglass lenses of claim 11 do not prevent the image from reaching the eye. Rather, claim 11 recites that the eyeglasses are activated to partly block light from reaching the eye. Even though the eyeglasses of claim 11 partly block light, page 4, lines 1-8 of the Application explain that an image can nonetheless be seen by the eye, albeit that the image is delayed from reaching the eye.

The delayed arrival of the image that reaches one of the eyes of the viewer of the present invention compared to the

other eye produces the three-dimensional effect of the present invention. In contrast, the eyeglasses of Noble are do not operate in the same manner as the eyeglasses of the invention, since the eyeglasses of Noble are activated to become "opaque in the sense that the user is unable to view any image" through the opaque lens (col. 3, lines 35-38).

Applicant respectfully submits that Noble does not anticipate claim 11, since Noble teaches completely blocking an image from reaching the eye of the viewer, while claim 11 recites "partly" blocking light meaning that the image is not completely blocked from reaching the eye of the viewer.

2. Noble does not teach or suggest eyeglasses that are activated in synchronization with movement of objects of the two-dimensional moving picture frames

The eyeglasses of claim 11 create a three-dimensional image from two-dimensional moving picture frames by synchronizing the activation of the eyeglasses with movement of objects in the two-dimensional moving picture. For instance, when certain objects displayed on a television screen are moving from right-to-left in comparison with stationary objects, such as the right-to-left movement of basketball players in comparison with the crowd, the eyeglass lens covering the left eye is activated to partly block light while the eyeglass lens covering the right

eye remains clear (page 5, lines 1-13). As the basketball players change direction and move from left-to-right, the left eyeglass lens returns to the clear state and the right eyeglass lens is activated to partly block the light. Thus, in synchronization with the movement of objects in two-dimensional moving picture frames, the present invention creates a three-dimensional image by activating either the left or right eyeglass lens depending on the direction of movement of the objects in the two-dimensional moving picture.

Noble does not suggest synchronizing the activation of the eyeglasses based on the movement of objects in the two-dimensional picture as recited in claim 11. As discussed in section 1 above, the display of Noble alternately displays left eye and right eye images every $1/60^{\text{th}}$ of a second. (col. 3, lines 17-38). Noble explains that the synchronization of the eyeglasses is based on the appearance of the left eye and right eye images (col. 6, lines 19-25), not based on the movement of objects in the images. Put another way, Noble's eyeglasses periodically alternate between right and left activation every $1/60^{\text{th}}$ of second, while claim 11 recites that the eyeglasses are activated depending on the movement of objects in the two dimensional picture.

The activation synchronization recited in claim 11 significantly differs from Noble. In Noble, a 30-second

television scene would require 1800 alternating frames (1 frame every 1/60th second) to be displayed on the screen, producing 900 frames for each eye. Synchronizing the left/right activation of 1800 frames appears complex. However, for the same 30 second television scene, the method of claim 11 activates the eyeglasses much less often, since the activation is based on the movement of objects on the television screen. Thus, the eyeglasses of Noble are activated every 1/60th of second regardless of the direction of movement on objects in the image, while the eyeglasses of the invention are activated based on the movement of objects regardless of the time interval.

Applicant respectfully submits that claim 11 is patentable over Noble since Noble does not teach or suggest activating the eyeglasses in synchronization with the movement of objects in the two-dimensional picture.

F. Conclusion

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance and such action is respectfully requested. Should any extensions of time or fees be necessary in order to maintain this Application in pending

condition, appropriate requests are hereby made and
authorization is given to debit Account # 02-2275.

Respectfully submitted,

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